

FORM PTO-1390 (Modified) U.S. PATENT AND TRADEMARK OFFICE; U.S. DEPARTMENT OF COMMERCE (REV. 9-2006)		ATTORNEY'S DOCKET NUMBER <b>873.0157.U1(US)</b>
<b>TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371</b>		U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>10/590,671</b>
INTERNATIONAL APPLICATION NO. <b>PCT/US05/06132</b>	INTERNATIONAL FILING DATE <b>2/23/2005</b>	PRIORITY DATE CLAIMED <b>2/27/2004</b>
<b>TITLE OF INVENTION</b> <b>Constrained Optimization Based MIMO LMMSE-SIC Receiver for CDMA Downlink</b>		
<b>APPLICANT(S) FOR DO/EO/US</b> <b>Zhang et al.</b>		
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> This is a <b>FIRST</b> submission of items concerning a submission under 35 U.S.C. 371.</li> <li>2. <input checked="" type="checkbox"/> This is a <b>SECOND</b> or <b>SUBSEQUENT</b> submission of items concerning a submission under 35 U.S.C. 371.</li> <li>3. <input type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (25) indicated below.</li> <li>4. <input type="checkbox"/> The US has been elected (Article 31).</li> <li>5. <input type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> is attached hereto.</li> <li>b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4).</li> </ol> </li> <li>7. <input type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))             <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).</li> <li>10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).</li> <li>11. <input type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IPEA/409).</li> <li>12. <input type="checkbox"/> A copy of the International Search Report (PCT/ISA/210).</li> </ol> <p><b>Items 13 to 23 below concern document(s) or information included:</b></p> <ol style="list-style-type: none"> <li>13. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.</li> <li>14. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.</li> <li>15. <input type="checkbox"/> A <b>FIRST</b> preliminary amendment.</li> <li>16. <input type="checkbox"/> A <b>SECOND</b> or <b>SUBSEQUENT</b> preliminary amendment.</li> <li>17. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76.</li> <li>18. <input type="checkbox"/> A substitute specification.</li> <li>19. <input type="checkbox"/> A power of attorney and/or change of address letter.</li> <li>20. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825.</li> <li>21. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4).</li> <li>22. <input type="checkbox"/> A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4).</li> <li>23. <input type="checkbox"/> Express Mail Label No.</li> </ol>		

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U.S. APPLICATION NO (if known, see 37 CFR 1.5) <b>10/590,671</b>	INTERNATIONAL APPLICATION NO. <b>PCT/US05/06132</b>	ATTORNEY'S DOCKET NUMBER <b>873.0157.U1(US)</b>																																																																																																								
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The fee is \$250 for each additional 50 sheets of paper or fraction thereof.</td> <td></td> <td></td> </tr> <tr> <td>Total Sheets</td> <td>Extra Sheets</td> <td>Number of each additional 50 or fraction thereof (round up to a whole)</td> <td>RATE</td> </tr> <tr> <td>- 100 =</td> <td>0 /50 =</td> <td>0</td> <td>x \$250.00</td> </tr> <tr> <td colspan="2">Surcharge of \$130.00 for furnishing any of the search fee, examination fee, or the oath or declaration after the date of commencement of the national stage (37 CFR 1.492(h)).</td> <td>\$ 0.00</td> <td>\$ 130.00</td> </tr> <tr> <td>CLAIMS</td> <td>NUMBER FILED</td> <td>NUMBER EXTRA</td> <td>RATE</td> </tr> <tr> <td>Total claims</td> <td>- 20 =</td> <td>0</td> <td>x \$50.00</td> </tr> <tr> <td>Independent claims</td> <td>- 3 =</td> <td>0</td> <td>x \$200.00</td> </tr> <tr> <td colspan="2">MULTIPLE DEPENDENT CLAIMS (if applicable)</td> <td><input type="checkbox"/> +</td> <td>\$360.00</td> </tr> <tr> <td colspan="2"><b>TOTAL OF ABOVE CALCULATIONS =</b></td> <td>\$ 0.00</td> <td>\$ 130.00</td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. Fees above are reduced by 1/2.</td> <td>\$ 0.00</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="2"><b>SUBTOTAL =</b></td> <td>\$ 0.00</td> <td>\$ 130.00</td> </tr> <tr> <td colspan="2">Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).</td> <td>\$ 0.00</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="2"><b>TOTAL NATIONAL FEE =</b></td> <td>\$ 0.00</td> <td>\$ 130.00</td> </tr> <tr> <td colspan="2">Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40 per property +</td> <td>\$ 0.00</td> <td>\$ 0.00</td> </tr> <tr> <td colspan="2"><b>TOTAL FEES ENCLOSED =</b></td> <td>\$ 0.00</td> <td>\$ 130.00</td> </tr> <tr> <td colspan="2"></td> <td>Amount to be</td> <td>\$</td> </tr> <tr> <td colspan="2"></td> <td>Amount to be</td> <td>\$</td> </tr> </tbody> </table>			The following fees have been submitted:		CALCULATIONS	PTO USE	25. <input type="checkbox"/> Basic national fee (37 CFR 1.492(a)).....		\$ 300	\$ 0.00	26. <input type="checkbox"/> Examination fee (37 CFR 1.492(c)) If the written opinion prepared by ISA/US or the international preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article		\$ 0	\$ 0.00	All other situations.....		\$ 200		27. <input type="checkbox"/> Search fee (37 CFR 1.492(b)) If the written opinion of the ISA/US or the International preliminary examination report prepared by IPEA/US indicates all claims satisfy provisions of PCT Article 33(1)-(4)....		\$ 0		Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.....		\$ 100	\$ 0.00	International Search Report prepared by an ISA other than the US and provided to the Office or previously communicated to the US by the IB.....		\$ 400		All other situations.....		\$ 500		<b>TOTAL OF 25, 26 and 27 =</b>		\$ 0.00		<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing in compliance with 37 CFR 1.821(c) or (e) in an electronic medium or computer program listing in an electronic medium) (37 CFR 1.492(j)). 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- a.  A check in the amount of \$ \$130.00 to cover the above fees is enclosed.
- b.  Please charge my Deposit Account No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the above fees. A duplicate copy of this sheet is enclosed.
- c.  The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 50-1924. A duplicate copy of this sheet is enclosed.
- d.  Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. The PTO-2038 should only be mailed or faxed to the USPTO. However, when paying the basic national fee, the PTO-2038 may NOT be faxed to the USPTO.

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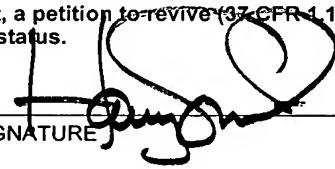
Please

be advised that this is not recommended and by doing so your credit card information may be displayed via PAIR. To

**NOTE:** Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.

SEND ALL CORRESPONDENCE TO:

Harrington & Smith, PC  
4 Research Drive  
Shelton, CT 06484-6212  
Customer No. 29683

  
SIGNATURE

Harry F. Smith

NAME

32,493

REGISTRATION NUMBER

May 29, 2007

DATE

PCT  
S

## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/590,671	Jianzhong Zhang	873.0157.U1(US)
INTERNATIONAL APPLICATION NO.		
PCT/US05/06132		
29683 HARRINGTON & SMITH, PC 4 RESEARCH DRIVE SHELTON, CT 06484-6212	I.A. FILING DATE DUE DATE PAPER DATED OA MSG PT APPEAL OTHER	PRIORITY DATE 02/23/2005 02/27/2004
CONFIRMATION NO. 2837 371 FORMALITIES LETTER		
 OC000000023604153*		

Date Mailed: 05/01/2007

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Copy of the International Application filed on 08/24/2006
- Copy of the International Search Report filed on 08/24/2006
- Preliminary Amendments filed on 08/24/2006
- Information Disclosure Statements filed on 08/24/2006
- U.S. Basic National Fees filed on 08/24/2006
- Priority Documents filed on 08/24/2006
- Specification filed on 08/24/2006
- Claims filed on 08/24/2006
- Abstracts filed on 08/24/2006
- Drawings filed on 08/24/2006

The applicant needs to satisfy supplemental fees problems indicated below.

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- To avoid abandonment, a surcharge (for late submission of filing fee, search fee, examination fee or oath or declaration) as set forth in 37 CFR 1.492(h) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

RECEIVED

JUN 03 2007

SUMMARY OF FEES DUE:

HARRINGTON &amp; SMITH, PC

Total additional fees required for this application is \$130 for a Large Entity:

- \$130 Surcharge.

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web.  
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DEBORAH D WILLIAMS

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Telephone: (703) 308-9140 EXT 205

**PART 1 - ATTORNEY/APPLICANT COPY**

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U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/590,671	PCT/US05/06132	873.0157.U1(US)

FORM PCT/DO/EO/905 (371 Formalities Notice)

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:

Applicant: Zhang et al.

Serial No.: 10/590,671

Filed: 2/23/2005

Title: Constrained Optimization Based MIMO LMMSE-SIC Receiver for CDMA Downlink

Attorney Docket No.: 873.0157.U1(US)

Certificate of Mailing

I hereby certify that the following correspondence:

Transmittal Letter to U.S. Designated/Elected Office

Declaration and Power of Attorney

Check for \$130.00

is being deposited with the United States Postal Service, on the date shown below, first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Mail Stop PCT

May 29, 2007

Date

Elaine F. Mian

